

# **ABSTRACT OF THE DISCLOSURE**

In a network including a plurality of communication nodes, communication is allowed to continue even when annular connection is generated. When a new transmission path is added, at least one of communication nodes located at both ends of the added transmission path transmits a confirmation signal through the added transmission path, and determines whether or not a new annular path is formed by determining whether or not the transmitted confirmation signal returns from another transmission port of the communication node. When it is determined that a new annular path is formed, at least one of the communication nodes located at both ends of the added transmission path logically or physically makes the added transmission path unavailable in order to prevent formation of the annular path.